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ABSTRACT

In contrast with subject-bound education, integrative education promotes the construction of broad "mental programs" that require students to use skills and information in new, realistic contexts. Early childhood education has long been a model of integrative education, emphasizing the whole child and offering a wide range of experiences that enable a child to develop the skills necessary for discovery and learning. This brief reviews five publications that provide suggestions for helping educators construct and implement an effective curriculum. They are as follows: (1) "Planning Integrated Curriculum: The Call to Adventure" (Susan M. Drake); (2) "ITI: The Model. Integrated Thematic Instruction" (Susan Kovalik and Karen Olsen); (3) "Performance Assessments in Reading and Language Arts" (John T. Guthrie, Peggy Van Meter, and Ann Mitchell); (4) "Crossing Boundaries: Explorations in Integrative Curriculum" (Jane Braunger and Sylvia Hart-Landsberg); and (5) "Education 2000 Integrated Curriculum" (Betty Jean Eklund Shoemaker). (LMI)

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Integrative Education

Dean Walker

There are many voices in the chorus for education reform. Some would have schools teach academic disciplines separately in their "pure" form. Others argue that students can integrate "the basics" with other important skills within an educational environment shaped by the reality of today's information-rich world. Although some critics claim that the drive to dissolve traditional subject boundaries is faddish and ill-founded, recent research on the human mind and brain, combined with earlier data, make a compelling case for integrative education.

The mind clearly seeks patterns, and we can remember and retrieve information much better when it is embedded in a meaningful context like that of an integrated curriculum. While subject-bound education treats students as passive receptacles, requiring them only to feed back fragments of skills and facts given them, integrative education promotes the construction of broad "mental programs" that require students to use skills and information in new, realistic contexts.

Early childhood education has long been a model of integrative education, emphasizing the whole child and offering a wide range of experiences—tactile, kinesthetic, visual, oral—that enable a child to develop the skills necessary for discovery and learning. Elementary schools have a decided advantage in integrating their curricula because many of their classroom teachers, unlike specialized middle or high school teachers, traditionally blend material from a variety of academic disciplines in their instruction.

But all educators face internal and external obstacles in constructing and implementing an effective integrated curriculum. The five items reviewed here provide some helpful insights into the process.

Susan M. Drake offers antidotes to old beliefs about education that die hard when schools begin to integrate their curricula.

Susan Kovalik and Karen Olsen explain how to implement a "brain-compatible" learning environment for integrative education.

John T. Guthrie, Peggy Van Meter, and Ann Mitchell note that traditional assessment practices often fall short in evaluating the outcomes of integrative education, and share their reading performance assessment.

Jane Braunger and Sylvia Hart-Landsberg acknowledge the challenges that the integrated curriculum presents to teachers who have traditionally worked alone, and discuss how administrators can provide support.

Finally, *Betty Jean Eklund Shoemaker* describes the Education 2000 Integrated Curriculum of the Eugene Public Schools in Oregon.

Dean Walker is a child-development specialist who writes for the ERIC Clearinghouse on Educational Management at the University of Oregon.

Drake, Susan M. **Planning Integrated Curriculum: The Call to Adventure.** Alexandria, Virginia: Association for Supervision and Curriculum Development, 1993. 66 pages. ED 355 660. *Available from:* ASCD, 1250 North Pitt St., Alexandria, VA 22314-1453 (Stock No. 611-93025) $8.95.

Drake identifies and responds to ten widely held beliefs that limit movement toward integrative education:

1. *The students won't learn basic*

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skills. Drake assures teachers they can find relevant contexts to build reading and math skills into the integrated curriculum.

2. *Optimum learning moves from basic to more complex structures.* Drake says this belief gives rise to the "layer cake" curriculum, in which students move from pieces to wholes, from simple to complex. She believes it is better to first present students with the "big picture" so they can benefit from understanding the context.

3. *Content is most important.* Students will learn content in an integrated curriculum, not as an end in itself, but as a vehicle for essential knowledge.

4. *Course content will not be covered.* Drake believes course content can be selectively integrated into essential learning themes. She advises educators to let go of the belief that they need to sequence skills.

5. *Integrated curriculum is superficial.* While admitting that early attempts at integration produced some shallow products, Drake declares that an integrated curriculum can fully explore topics in ways that are meaningful and relevant.

6. *Knowledge belongs in discrete categories.* Drake recommends delaying specialization as long as possible. She believes that when teachers experience the integration of their areas of expertise with other areas, they quickly realize that the role of the disciplines is to organize knowledge, not to isolate it.

7. *Math (or any subject) is a "force-fit."* Math especially is often seen as a distinct entity because of mandated standardized testing. Drake suggests that specialists in all subject areas be included on curriculum teams in order to explore ways to meet testing mandates within an integrated curriculum.

8. *Teachers don't know enough to teach an integrated curriculum.* Drake's response is that teachers should adopt a "life-long learner" stance and say to their students, "Let's find out together."

9. *Integration is only for gifted students.* In fact, at-risk students especially benefit from increased motivation that arises from the greater relevance of the integrated approach.

10. *Students are passive learners.* In an interactive process, students learn to ask questions and discover answers in their attempts to construct meaningful models to understand the world. As experience with integrative education increases, the curriculum becomes more student-driven.

Kovalik, Susan, and Karen Olsen. **ITI: The Model. Integrated Thematic Instruction (3rd edition)**. Kent, Washington: Books for Educators, 1994. 374 pages. ED 374 894. *Available from:* Books for Educators, Covington Square, 17051 SE 272nd St., Suite 18, Kent, WA 98042. $24.95, plus $3.00 shipping.

Kovalik and Olsen use brain research to help identify eight conditions that create a "brain-compatible" learning environment for integrative education.

1. *Absence of threat.* The authors note the part of the brain responsible for learning academic skills—the cerebrum—functions well only in the absence of any threat to safety and well-being. When danger is perceived in the environment, the limbic system (a more primitive part of the brain associated with survival) effectively shuts down the cerebrum and makes it unavailable for learning. Therefore fear—of a classroom bully, a bad grade, or public ridicule—must be minimized.

2. *Meaningful content.* Information is most securely and intricately encoded in the brain when it is connected to some encompassing web of meaning. Cognitive research indicates that retrieving information from memory is enhanced when it is stored as part of a meaningful whole.

3. *Choices.* Recent brain research, say Kovalik and Olsen, indicates that choice is critical to education because it:

- Increases the likelihood that learners will detect relationships between new information and mental programs already stored in their brains;
- Provides a variety of inputs and recognizable patterns;
- Prevents stress or frustration resulting from boredom or failure;
- Allows learners to select, organize, and experience input in preferred ways, resulting in more learning; and
- Increases the flow of epinephrine (a brain chemical that shifts information from short-term to long-term memory) by heightening interest.

4. *Adequate time.* "Don't expect to finish; don't get too involved; the clock is more important than the experience"—these are the messages that children receive when their day is structured in time fragments according to separate disciplines. The result is often shoddy work, low standards, and apathy as students rush to finish assignments during the allotted time.

5. *Enriched environment.* The authors believe the brain is designed to learn from the complexities of real life, an ability unchallenged by the simplicity of textbooks and seat work, as well as the artificial division of knowledge into subject areas. An enriched environment enlarges neurons and stimulates the growth of nerve fibers, leading to a greater capacity to make and perceive connections, and to solve problems.

6. *Collaboration.* According to Kovalik and Olsen, classroom collaboration substantially increases the manipulation of information as group members provide input from their personal perspectives and help each other to learn group skills that are essential to success in school and in life.

7. *Immediate feedback.* Immediate and realistic feedback is essential for forming mental programs and patterns through which children can understand and manipulate the world around them. The authors suggest that we provide students with concrete, hands-on experiences either at a real-world site or by sim-

ulating the real world in the classroom.

8. *Mastery.* Kovalik and Olsen use mastery to mean that learners have created a mental program that enables them to perform a task completely, correctly, and comprehensively in a real-world situation.

Guthrie, John T.; Peggy Van Meter; and Ann Mitchell. **"Performance Assessments in Reading and Language Arts."** *The Reading Teacher* 48: 3 (November 1994): 266-71. EJ 492 820. *Available from:* UMI The Information Store, 500 Sansome Street, Suite 400, San Francisco, CA 94111. 1-800-248-0360, Ext. 282.

The authors note that traditional assessments fail to measure students' development of higher order competencies within an integrated curriculum. Their model of performance assessment in reading and language arts is based on three fundamental qualities that might also be applied to assessment of other integrative education processes.

First, their assessment simulates the integrative teaching environment by requiring students to use their new skills and knowledge to solve problems in ways that parallel the integrated instructional unit. Students are also expected to learn from the assessment process.

Second, the performance assessment reflects authentic and regularly occurring tasks in reading, writing, and problem solving, eliminating the need to remember and regurgitate facts, which is characteristic of standardized tests. Students may be asked to record observations from a field trip; discuss books, videos, or other materials; or develop ways to teach what they have learned to other students. Their efforts are assessed for the completeness and correctness of newly gained concepts and skills, and how comprehensively they are applied to solving problems and drawing conclusions.

Finally, the performance assessment provides a record of accomplished tasks which, entered into a portfolio, establish the student's mastery of skills, content, and processes.

Braunger, Jane, and Sylvia Hart-Landsberg. **Crossing Boundaries: Explorations in Integrative Curriculum.** Portland, Oregon: Northwest Regional Educational Laboratory, 1994. 58 pages. ED 370 239. *Available from:* Northwest Regional Educational Laboratory, 101 SW Main St., Suite 500, Portland, OR 97204. 1-800-547-6339, Ext. 519. $9.95.

Braunger and Hart-Landsberg note that "innovations do not spring up simply because teachers who are saints and geniuses call them forth." To successfully implement integrative education, teachers need help to overcome the inertia of operating in isolation.

Integrative education must proceed hand-in-hand with other aspects of school reform and receive the same sort of administrative support, including access to resources, participation in decision making, and meaningful professional dialogue.

Elementary school principals can facilitate access to the following resources:

Time—by manipulating schedules to allow teachers to network and cooperatively plan integrative units, or to provide release time for visits to other integrative programs.

Place—by establishing a space for planning and consulting that is conducive to creativity.

Associations—by empowering parent-involvement programs, site-based councils, school-business partnerships, and community social programs to help teachers provide real-world contexts for students' learning environment.

Technology—by providing phones, electronic mail, and fax machines to help teachers expand their contacts with other educators, parents, social-service providers, businesses, and government agencies.

Choice—by allowing teachers to form alliances based on common personal and professional goals and interests.

Principals can also provide support by offering teachers greater autonomy, including full participation in setting policies on materials selection, hiring, scheduling, and class size and composition.

Finally, administrators can create opportunities for reflection and dialogue among teachers. An interchange on standardized testing, for example, could be a springboard for improving testing practices that overlook or discount competencies developed in an integrative educational environment.

Shoemaker, Betty Jean Eklund. **"Education 2000 Integrated Curriculum."** *Phi Delta Kappan* 72: 10 (June 1991): 793-97. *Available from:* Phi Delta Kappa, PO Box 789, Bloomington, IN 47402-0789. 812-339-1156.

Shoemaker outlines the five major components of the Education 2000 Integrated Curriculum, created by a task force for the Eugene (Oregon)

About ERIC

The Educational Resources Information Center (ERIC) is a national information system operated by the Office of Educational Research and Improvement (OERI). The ERIC Clearinghouse on Educational Management, one of 16 such units in the system, was established at the University of Oregon in 1966.

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Public Schools and widely used by teams of teachers who have taken advantage of district training and support.

1. *Core skills and processes.* The basic skills of language arts and mathematics are expanded to include thinking skills, physical and sensing skills, and social skills. The curriculum also recognizes processes that represent the use of skills in combination, like reading, problem solving, and working in cooperative groups.

2. *Curriculum strands.* The curriculum is organized around three strands—Human Societies, The Earth and Universe, and The Individual. This eliminates the fragmented approach of traditional subject-matter divisions.

3. *Major themes and concepts.* Each strand is further subdivided into six themes—communities, change, power, interactions, form, and systems—that incorporate all of the traditional subject areas.

4. *Questions.* In addition to fostering student thinking, questions serve as planning tools for teachers. The curriculum guide provides key words to help teachers develop questions to define themes and focus activities.

5. *Unit development.* To ensure a clear link between themes and the concepts and skills being taught, the Education 2000 Integrated Curriculum requires the teacher to:

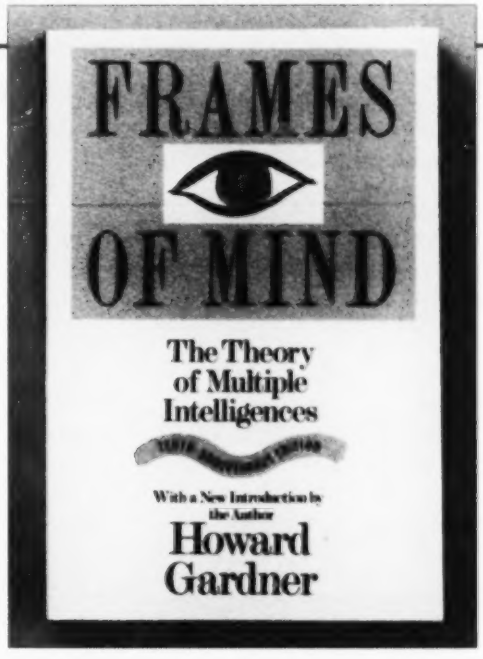
- Select major themes and concepts;
- Generate a relevant list of questions to be answered;
- Narrow the focus from the list of questions;
- Complete a chart to identify new skills and content;
- Develop daily plans that move from the whole to its parts; and
- Identify student products and assessment opportunities.

Research Roundup is published three times during the school year by the National Association of Elementary School Principals. Single copies: $2.50; bulk orders (10 or more): $2.00 ea. Virginia residents add 4.5% sales tax. Specify date and title of issue when ordering. Checks payable to NAESP must accompany order. Send to Educational Products, NAESP, 1615 Duke Street, Alexandria, Virginia 22314-3483.

Frames of Mind: The Theory of Multiple Intelligences

by Howard Gardner

This book challenges the notion that intelligence is a single capacity. Gardner proposes that every person possesses a number of different intelligences, in varying degrees.



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